CLAIM AMENDMENTS

Please cancel claims 1-6 and 12-22 and add new claim 23.

1. (Cancelled)

2. (Cancelled)

3. (Cancelled)

4. (Cancelled)

5. (Cancelled)

6. (Cancelled)

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7. (Previously Presented) A gas separator according to claim 23, wherein at least one of a honey-comb member and a fin member is provided in the interior portion of each of the blocks.

8. (Cancelled)

9. (Cancelled)

10. (Currently amended) A gas separator according to claim 23, wherein the specific gas is carbon dioxide and the gas absorption/releasing material is a lithium based material which reacts with the carbon dioxide to generate lithium carbonate thereby to absorb carbon dioxide and which releases the carbon dioxide by decomposition of the carbonate.

11. (Currently Amended) A gas separator according to claim 10, wherein the second temperature control gas has a temperature of approximately 500°C while the first temperature control gas has a temperature of over approximately 700°C.

12. (Cancelled)

13. (Cancelled)

14. (Cancelled)

15. (Cancelled)

16. (Cancelled)

17. (Cancelled)

18. (Cancelled)

19. (Cancelled)

20. (Cancelled)

21. (Cancelled)

22. (Cancelled)

23. (Currently Amended) A gas separator for separating a specific gas from a mixed gas, comprising:

an outer casing;

a rotating body disposed inside the casing, the rotating body comprising a plurality of circumferentially arranged fan-shaped hollow blocks, each of the blocks having an interior portion with an inner wall surface;

a gas absorption/releasing material for absorbing and releasing a specific gas from a mixed gas depending on temperature, disposed on the inner wall surface of each block;

~~a drive device mounted to the casing to drive the rotating body to rotate;~~

first and second independent gas flow path structures, wherein:

the first gas flow path structure extends linearly from a gas supply port at a first end of the outer casing to an exhaust port at a second end of the outer casing and which passes through and interior portion of at least one of the hollow blocks when it is between the gas supply port and the exhaust port, and

the second gas flow path structure comprises:

an introduction path formed at a substantially central portion of the rotating body, and

first and second supply paths which are isolated from communication with the interior portions of the respective blocks and which extend between the respective blocks in directions perpendicular to a central axis of the rotating body, the first and second supply paths respectively interconnecting the introduction path with first and second discharge ports by way of first and second spaces located between the outer casing and portions of the outer peripheral portion of the rotating body;

wherein:

the introduction path and the first and second supply paths are divided into first and second sections and a first temperature control gas and a second temperature control gas flow respectively through the first and second sections to the first and second discharge ports to establish first and second temperature zones within the outer casing,

wherein:

the discharge ports are disposed at opposed locations on the outer casing such that, with respect to the central axis of the rotating body ~~in the outer casing being a boundary thereof~~, the sides of the casing on which the first and second discharge ports are respectively disposed ~~constitutes a~~ constitute first and second areas wherein the respective blocks of the rotating body are exposed to the first temperature zone when passing the first area ~~and~~ for release of the specific gas absorbed by the gas absorption/releasing material therein, while, the blocks of the rotating body are exposed to the second temperature zone, when passing the second area, ~~and so that~~ whereby gas passing through the first gas flow path passes through an interior of each block and the specific gas in the mixed gas is absorbed by the absorption/releasing material,

wherein the rotating body has:

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a hollow static portion which extends along an axis about which the rotating body is rotatable, the hollow static portion being divided into two sections to divide the introduction path into first and second portions for the first temperature gas and the second temperature gas respectively, and

sealing portions which are disposed between the static portion and the rotating body and between the rotating body and the casing so as to seal and separate the first and second portions of the introduction supply path through which the first and second temperature adjusting fluids respectively flow,

wherein:

the rotating body rotates through a plurality of rotational positions,

wherein:

the mixed gas is fed to the gas absorption/releasing material at a first rotating position of the rotating body which is located in the first temperature zone, the specific gas is released from the gas absorption/releasing material at a second rotational position of the rotating body which is located in the second temperature zone, and wherein:

blocking positions which are located in the casing between the first rotational position and the second rotational position, block communication between the first and second rotational position.

24. (New) A gas separator comprising:

an outer casing having axially opposite ends and a curved side wall;

a gas inlet formed in one of the axially opposite ends and a gas outlet formed in the other of the axially opposite ends, the gas inlet and gas outlet being essentially axially aligned with one another; and

a plurality of hollow fan-shaped blocks which are assembled into a circular rotating body that is disposed inside the casing, the hollow fan-shaped blocks each having:

a hollow interior,

axially opposed openings through which gas can exclusively flow from the gas flow inlet to the gas flow outlet via the interior when the fan-shaped block rotates into a position between the gas flow inlet and gas flow outlet; and

external radially extending side surfaces which are each arranged opposite and spaced from an external radially extending side surface of an adjacent fan-shape member so as to form a plurality of radially extending passages which each extend between two adjacent fan-shaped blocks and which are each fluidly isolated from the interiors of the hollow fan shaped members.

25. (New) A gas separator according to claim 24, further comprising:

a stationary tubular member which is disposed coaxially along an axis about which the circular rotating body is rotatable, the tubular member being divided into two halves which respectively define first and second separate elongate passages that respectively carry flows of first and second temperature control fluids.

26. (New) A gas separator according to claim 25, further comprising:

pairs of stationary sealing members disposed within the outer casing and which engage inboard and outboard curved edges of the hollow fan shaped members which rotate into contact therewith, the sealing members separating an interior of the outer casing into first and second sectors into which the first and second temperature control fluids are introduced from the first and second elongate passages, the first and second temperature control fluids passing through the

radially extending passages between fan-shaped blocks which are respectively located in the first and second sectors, to first and second temperature control fluid exhaust ports formed in a side wall of the outer casing, without entering the interiors of the fan-shaped blocks.

27. (New) A gas separator according to claim 24, further comprising an absorbent material disposed in the interiors of the fan-shaped blocks for absorbing a gaseous component from the gas which flows from the gas flow inlet through the outer casing to the gas flow outlet.

28. (New) A gas separator according to claim 26, wherein the first and second control fluids respectively heat the fan-shaped blocks in the first and second sectors to first and second temperatures at which the gaseous component is absorbed and released respectively.

29. (New) A gas separator according to claim 24, wherein the outer casing further comprises a gaseous component exhaust port formed in at least one axial end for venting the gaseous component which is released from the absorbent material in the fan-shaped blocks which have rotated into the second of the first and second sectors.

30. (New) A gas separator for separating carbon dioxide gas from a mixed gas comprising:

an outer casing having an axis and first and second axial ends in which a gas inlet and a gas outlet are respectively formed;

a rotating body comprised of a plurality of hollow blocks disposed inside the casing so as to be rotatable about the axis of the outer casing, each of the hollow blocks having openings in opposed faces of the blocks which faces extend normally to the axis of the outer casing;

a temperature responsive carbon dioxide absorption/releasing material disposed on an inner surface of the hollow blocks and adapted to absorb and release carbon dioxide; and

a first flow path means formed inside the rotating body for directing an essentially unrestricted flow of carbon dioxide containing gas axially through the casing from the gas inlet to the gas outlet, and through the openings in the hollow blocks which are located between the outer casing; and

a second flow path means which is fluidly separate from the first flow means for feeding at least one temperature adjusting fluid through a selected portion of the rotating body and over only the external surfaces of the hollow blocks, said second flow path means establishing different temperature zones within the casing and to selectively cause absorption and release of carbon dioxide depending on a rotational position of the rotating body within the casing.

31. (New) A gas separator according to claim 30, wherein the openings in the opposed faces of the blocks provide exclusive fluid communication with an interior of each of the hollow blocks.

32. (New) A gas separator comprising:

a circular rotating body formed of a plurality of fan shaped blocks, each of the blocks having opposed open flat faces in which openings are respectively formed which permit gas to flow through a hollow interior of the block, each block having non-perforate curved inner and outer edges and non-perforate flat sides which are angled with respect to one another, the non-perforate flat sides cooperating to define temperature adjustment passages through which temperature adjusting fluids flow and exclusively contact external surfaces of the block and change the temperature of the blocks; and

an essentially cylindrical casing in which the rotating body is disposed, the casing having first and second axial ends in which a gas inlet port and a gas outlet port are respectively formed so that gas flows axially through a segment of the housing and through the fan shaped blocks which rotate into the segment.

33. (New) A gas separator according to claim 32, further comprising a stationary tubular member which is disposed coaxially along an axis about which the circular rotating body is rotatable, the tubular member being divided into two halves which

respectively define first and second separate elongate passages that respectively carry flows of first and second temperature control fluids and which respectively deliver the first and second temperature control fluids respectively to first and second temperature adjustment fluid discharge ports which are formed in a curved side of the cylindrical housing and on essentially opposite sides of the cylindrical housing via selected temperature adjustment passages, thus establishing two segment-shaped temperature zones within the cylindrical casing on opposite sides of the stationary tublar member.